

IN THE CLAIMS:

Please cancel claims 1, 2, 9-12, 15, 16, 18, 20, 39, 40, 49, 50, and 52-70 without prejudice, amend claims 3-6, 8, 13, 14, 17, 19, 21, 25-27, 38, 41, 48, and 51, and add new claims 71-103 as follows:

1. (Cancel)
2. (Cancel)
3. (Currently Amended) The microelectronic spring structure of Claim 2 73, wherein ~~said tip~~ an end of said beam has an unloaded height over said ~~substrate surface~~ electronic component in the range of 1 to 5 mils.
4. (Currently amended) The microelectronic spring structure of Claim 3 73, wherein ~~said tip~~ an end of said beam has an unloaded height over ~~said substrate~~ said electronic component less than about 2 mils.
5. (Currently amended) The microelectronic spring structure of Claim 4 73, wherein said beam has a width in the range of about 6 to 12 mils.
6. (Currently amended) The microelectronic spring structure of Claim 4 73, wherein said beam has a width no greater than 5 mils at said base.
7. (Previously amended) The microelectronic spring structure of Claim 6, wherein said beam has a width less than about 1 mil.
8. (Currently amended) The microelectronic spring structure of Claim 4 73, wherein said beam has a length in the range of about 1 to 10 mils.
- 9-12. (Cancel)

13. (Currently amended) The microelectronic spring structure of Claim 2 73, wherein said microelectronic spring structure has an elastic deflection ratio in a direction perpendicular to and towards said ~~substrate surface~~ electronic component of at least 10%.
14. (Currently amended) The microelectronic spring structure of Claim 2 73, wherein said microelectronic spring structure has an elastic range in a direction perpendicular to and towards said ~~substrate surface~~ electronic component within a range of about one to twenty mils.
15. (Cancel)
16. (Cancel)
17. (Currently amended) The microelectronic spring structure of Claim 46 73, wherein said microelectronic spring structure has a spring rate at ~~said tip~~ an end thereof in at least one direction within a range of about 30 to 600 micrograms per micron.
18. (Cancel)
19. (Currently amended) The microelectronic spring structure of Claim 4 71, wherein said beam is contoured in a lengthwise direction.
20. (Cancel)
21. (Currently amended) The microelectronic spring structure of Claim 4 71, wherein said ~~every cross-section~~ cross-sectional width is generally V-shaped.
- 22-24. (Previously withdrawn)
25. (Currently amended) The microelectronic spring structure of Claim 2 71, wherein said beam, in a lengthwise sectional view, has a stepped portion connected to said base.

26. (Currently Amended) The microelectronic spring structure of Claim 25, wherein said stepped portion of said beam has a step height in the range about 5% to 20% of an unloaded height of ~~said tip~~ an end of said beam over said ~~substrate surface~~ electronic component.

27. (Currently Amended) The ~~microelectronic spring structure~~ electronic component of Claim 25, wherein said stepped portion of said ~~body portion~~ beam has a step height about 10% of an unloaded height of ~~said tip~~ an end of said beam over said ~~substrate surface~~ electronic component.

28-37. (Previously withdrawn)

38. (Currently amended) The microelectronic spring structure of Claim 2 71, wherein said ~~spring structure comprises a sheet of resilient material, wherein said sheet, viewed from above said spring structure in a direction normal to said substrate, is essentially free of any overlapping~~ portion base and said beam are integrally formed.

39. (Cancel)

40. (Cancel)

41. (Currently amended) The microelectronic spring structure of Claim 2 71, wherein said beam, viewed in a direction normal to said ~~substrate surface~~ electronic component, is tapered so as to have a generally triangular shape.

42-47. (Previously withdrawn)

48. (Currently amended) The microelectronic spring structure of Claim 1 71, wherein said base and said beam are integrally formed and comprise a resilient material ~~comprises a metallic material.~~

49. (Cancel)

50. (Cancel)

51. (Currently amended) The microelectronic spring structure of Claim + 71, wherein said ~~resilient material comprises~~ base and said beam are integrally formed and comprise a layer of an electrically conductive seed material and a layer of electroplated metallic material.

52-70. (Cancel)

71. (New) A microelectronic spring structure comprising:

- a base secured to a terminal of an electronic component; and
- a beam extending from said base and spaced from said electronic component, a cross-sectional width of said beam contoured to increase an area moment of inertia of said beam.

72. (New) The microelectronic spring structure of Claim 71, wherein said electronic component is a semiconductor die.

73. (New) The microelectronic spring structure of Claim 72, wherein said semiconductor die is one of a plurality of semiconductor dice composing an unsingulated semiconductor wafer.

74. (New) An electronic component comprising:

- a terminal; and

- a contact structure comprising:

- a base secured to said terminal; and

- a beam extending from said base and spaced from said electronic component, a cross-sectional width of said beam contoured in a "V" shape.

75. (New) The electronic component of Claim 74, wherein said electronic component is a semiconductor die.

76. (New) The electronic component of Claim 75, wherein said semiconductor die is one of a plurality of semiconductor dice composing an unsingulated semiconductor wafer.

77. (New) The electronic component of Claim 74, wherein said beam is contoured along a length thereof.
78. (New) The electronic component of Claim 74, wherein said beam has a generally triangular shape.
79. (New) The electronic component of Claim 74, wherein said base and said beam are integrally formed.
80. (New) The electronic component of Claim 79, wherein said base and said beam comprise a resilient material.
81. (New) The electronic component of Claim 79, wherein said base and said beam comprise a layer of seed material and a layer of electroplated metallic material.
82. (New) The electronic component of Claim 74 further comprising a plurality of said terminals and a plurality of said contact structures.
83. (New) A method of forming a contact structure on a terminal of an electronic component, said method comprising:
- forming a patterned sacrificial material on said electronic component, said sacrificial material patterned to include an opening over said terminal defining a base of said contact structure and a molded surface defining a beam of said contact structure, said molded surface contoured to define a cross-sectional-width contour for said beam to increase an area moment of inertia of said beam;
  - forming said contact structure in said opening and on said molded surface; and
  - removing said sacrificial material from said electronic component.

84. (New) The method of Claim 83, wherein said step of forming said contact structure comprises:
- depositing a seed material; and
  - depositing a contact structure material on said seed material.
85. (New) The method of Claim 84, wherein said step of depositing a contact structure material comprises electroplating said contact structure material on said seed material.
86. (New) The method of Claim 83, wherein said step of forming said contact structure comprises:
- depositing a seed material over said sacrificial material;
  - forming a patterned masking material over said seed material, said masking material patterned to have an opening corresponding to said opening in said sacrificial material and said molded surface of said sacrificial material; and
  - depositing a contact structure material on said seed material exposed through said opening in said masking material.
87. (New) The method of Claim 86, wherein said step of depositing a contact structure material comprises electroplating said contact structure material on said seed material.
88. (New) The method of Claim 83, wherein said step of forming a patterned sacrificial material comprises:
- depositing a layer of sacrificial material on said electronic component; and
  - stamping said sacrificial material to form said opening and said molded surface.
89. (New) The method of Claim 83, wherein said electronic component is a semiconductor die.
90. (New) The method of Claim 89, wherein said semiconductor die is one of a plurality of semiconductor dice composing an unsingulated semiconductor wafer.

91. (New) The method of Claim 83 further comprising forming a plurality of said contact structures on a plurality of terminals of said electronic component, wherein said step of forming a patterned sacrificial material on said electronic component comprises:
- patterning said sacrificial material to include a plurality of openings over said plurality of terminals, each opening defining a base of one of said plurality of said contact structures, and
  - forming a plurality of molded surfaces, each defining a beam of one of said contact structures, each said molded surface contoured to define a cross-sectional width for said beam to increase an area moment of inertia of said beam;
- said method further comprising forming said plurality of contact structures each in one of said openings and on one of said molded surfaces.
92. (New) The method of Claim 83, wherein said molded surface is further contoured to define lengthwise contour for said beam.
93. (New) The method of Claim 92, wherein said lengthwise contour comprises a compound curve.
94. (New) The method of Claim 92, wherein said lengthwise contour comprises corrugations.
95. (New) The method of Claim 83, wherein said cross-sectional-width contour is generally "V" shaped.
96. (New) The method of Claim 83, wherein said cross-sectional-width contour is generally "U" shaped.
97. (New) The method of Claim 83, wherein said cross-sectional-width contour comprises a rib.
98. (New) The method of Claim 97, wherein said cross-sectional-width contour comprises a plurality of ribs.

99. (New) The method of Claim 83, wherein said beam, viewed in a direction normal to a surface of said electronic component, is generally triangular shaped.
100. (New) The method of Claim 83, wherein said beam, viewed in a direction normal to a surface of said electronic component, comprises a serpentine shape.
101. (New) The method of Claim 83, wherein said beam, viewed in a direction normal to a surface of said electronic component, comprises a "C" shape.
102. (New) The method of Claim 83, wherein said beam, viewed in a direction normal to a surface of said electronic component, comprises a "U" shape.
103. (New) The method of Claim 83, wherein said beam, viewed in a direction normal to a surface of said electronic component, comprises an "S" shape.